NASA
Lyndon B. Johnson Space Center

Space News Roundup

Vol. 20 No. 21 October 30, 1981 National Aeronautics and Space Administration

Final Countdown to Start

The Space Shuttle Columbia remained poised on Launch Pad 39A this week preparing for next week's hoped-for on-time launch Wednesday morning. If all goes as planned in the final phases of the countdown, Astronauts Col. Joe Henry Engle and Capt. Richard Truly will ride Columbia out over the Atlantic at 6:30 am. Central Time.

At Roundup press time, preparations were being made to pick up the final count at 1 a.m. EST Saturday.

Earlier in the week technicians closed out remaining work in preparing the Shuttle for launch, servicing the various on-board systems, stowing equipment and making the final checks of vital vehicle elements.

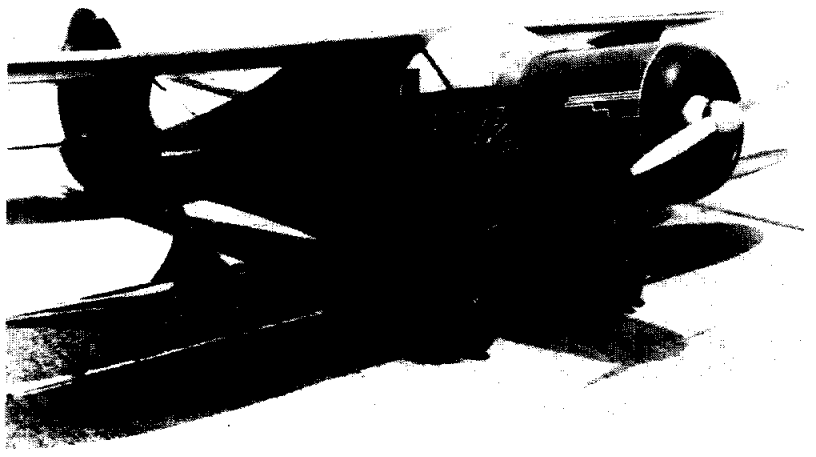
Repairs to the Columbia's thermal protection tiles and forward Reaction Control System following the September oxidizer spill had gone very well and were completed earlier than forecast. A second attempt at loading the hypergolic propellants, scheduled to take about six days, was completed in four.

STS-2 will be a five day, four-hour mission with expected touchdown Monday, Nov. 9, at Edwards Air Force Base, California, at 10:40 a.m. Central Time.

While launch and landing profiles will appear similar to STS-1, this time Columbia will be placed in a 137 nautical mile circular orbit, slightly lower than in STS-1. The vehicle also will be flown through a more ambitious set of entry maneuvers.

This mission also features a scientific payload, the OSTA-1, a group of Earth Resources remote sensing experiments, and the first tests of the Remote Manipulator System, the 50-foot-long mechanical arm built in Canada.

Waiting for the Big Moment
Space Shuttle Columbia (above) sits on Launch Pad 39A being readied for the final countdown to the launch which will send astronauts (top right picture) Col. Joe Engle (left) and Capt. Richard Truly (right) on a five-day mission. Busy scenes like this one in Mission Control (center right) will be a familiar sight again. In the picture at right, technicians look over the Canadian-built RMS mechanical arm which will be carried for the first time on STS-2 and put through some preliminary testing.



JSC R/C Club Scale Contest Fly-In

This beautifully detailed quarter-scale radio-controlled model of a Beechcraft "Staggerwing" built by Owen Morris is one of many which will be buzzing the antenna test range behind Building 14 this weekend. The JSC RC Club will sponsor the contest and fly-in Saturday and Sunday. For more information, call Hal Rosenberg, ext. 2126.

Bulletin Board

JSC Toastmasters

The JSC Toastmasters Club meets every Wednesday at Mario's in Webster (618 NASA 1) at 6:30 p.m. The purpose of the Toastmasters is to promote effective communication and leadership through public speaking. For more information call Shirley Brandt, 486-7326.

UHCLC Community Orchestra

The University of Houston, Clear Lake City Community Orchestra October 30 will present "A Children's Concert on the Eve of Halloween." The concert begins at 8 p.m. at the Clear Lake High School Auditorium. Adult tickets are $3, students and senior citizens $1. For more information call W. F. Meek at ext. 4851.

NARFE Travel Program

Chapter 1321 of the NATIONAL ASSOCIATION OF RETIRED FEDERAL EMPLOYEES will hold its regular monthly meeting on Friday, November 6, at 1 PM in the Clear Lake Park Building on NASA Road 1.

Margaret Simpson, Ph.D., English instructor at San Jacinto College, will present a program with slides of her travels in Greece. Visitors are invited.

All Federal employees (retired or not) who are 50 years of age or over, with at least 5 years of service, are eligible for membership in NARFE. call Shell Martin at 471-0490 for information about the local chapter.

JSC Golf Association

The JSC Golf Association played its last regular competitive tournament for the season at Atascocita Country Club on October 12.

First flight winners were Bob Ross (net 69), Bob Allen (70), Gerry Shinkel (72), and Dave Leestma (72). Second flight winners were Ernie Robertson (64), Larry Magers (71), Dick Hart (71), and John Zombory (73).

The final event for 1981 will be a fun tournament at Sharpstown on Wednesday, November 11. Trophies will be presented to the JSCGA Champion, Flight winners (based on all eight competitive tournaments held during the year), and Four-Ball match winners.

AIAA Meeting

Dr. Victor H. Reis, assistant director of the Office of Science and Technology Policy, will address the November 17 meeting of the AIAA Houston Section. The dinner meeting will be held at the Gilruth Recreation Center at JSC.

Dr. Reis is participating in the development of a national space policy for the Reagan Administration.

Planetarium

From November 27 through January 3, the Burke Baker Planetarium will present its new show on the following schedule:

Show: "Christmas Star"
Wednesday and Friday: 4 p.m.
Saturday and Sunday: 2, 3, 4 p.m.
Friday Evenings: 8 p.m.
Admission - $1.25; Children under 12, 50 cents
No admission after the show begins,
Contact 526-4273 for Special Holiday Schedule

The Burke Baker Planetarium is part of the Houston Museum of Natural Science, 1 Hermann Circle Drive.

The Museum is open from 9 a.m. to 5 p.m. Tuesday through Saturday; noon to 5 p.m. on Sunday and Monday and 7:30 p.m. to 9 p.m. on Friday. No admission charge.

Spacesuit Technician Joe Schmitt A Familiar Figure to Astronauts

Joseph "Joe" W. Schmitt is blessed with two decades of accolades from astronauts who fly in spaceships.

Schmitt is the Johnson Space Center flight equipment specialist who has "suited up" most astronauts before flight, and been among the last to shake their hands before liftoff.

He Suits Them Just Fine

JSC Spacesuit technician Joe Schmitt's career in suiting-up astronauts goes back to the space program's earliest days. Here he is seen escorting John Glenn, leaving crew quarters just prior to the MA-6 launch in 1962, the first U. S. orbital flight.

Speaking softly with what must be a bottomless reservoir of patience, Schmitt and his five-man crew assist in flight crew training, spacecraft checkout, spacesuit and flight equipment maintenance. He trouble-shoots crew equipment malfunctions and checks and tests suit components, preparing them for flight. It is Schmitt who will carry out the pre-flight inspection of crew parachutes and survival kits for the upcoming STS-2 launch.

From Mercury to Columbia, astronauts have hailed his craftsmanship.

Schmitt personally assisted Astronauts Alan B. Shepard, Jr., Virgil I. "Gus" Grissom, John H. Glenn, Jr., M. Scott Carpenter and Walter M. Schirra, Jr. into their Mercury spacecraft prior to their flights.

Starting with Shepard, and his Mercury suborbital test flight in 1961, Schmitt's memorabilia includes personally-written notes of thanks.

". . . With sincere appreciation and thanks for your help," wrote Shepard on one occasion. An on another, ". . . with happy memories of your devoted contributions."

In 1963, Mercury Astronaut Gordon L. Cooper thanked Joe for being a "good friend for all the good work."

He was praised by John H. Glenn, Jr., first man to orbit Earth in the Mercury program, and equally by David R. Scott after his Gemini flight:

"Many thanks for all of your help and valuable suggestions in keeping Gemini VIII well tailored," said Scott.

Schmitt's motto is perhaps the best tipoff of his success: "Have everything ready and don't waste their time."

Said Wally Schirra during Apollo 7 preparations: "Best wishes Joe — you really suit us."

High on the list, and most recent, is the plaudit from Christopher C. Kraft, Jr., JSC Director.

". . . you have been selected to receive the NASA Exceptional Service Medal for your outstanding contributions to the Space Shuttle Program and to the success of the STS-1 flight. . ."

Schmitt received the medal Sept. 11, in a presentation by Dr. Hans Mark, NASA Deputy Administrator.

AURA Head Names Hall To Space Telescope Post

Dr. John M. Teem, President of the Association of Universities for Research in Astronomy, Inc. (AURA) has announced the appointment of Tucson astronomer Dr. Donald N.B. Hall as Deputy Director of the Space Telescope Science Institute.

In announcing the appointment, Teem commented: "Hall's appointment is the culmination of a long and exacting search process. AURA is very pleased that Hall can bring his experience at the AURA-managed Kitt Peak National Observatory in Tucson, Ariz., to the Space Telescope Science Institute in Baltimore. This experience is particularly relevant since both centers will serve much the same community of astronomers."

The 240-centimeter (94-inch) aperture Space Telescope, a cooperative effort of NASA and the European Space Agency, already two thirds built, is scheduled for launch by the Space Shutle early in 1985. During its projected life, the Space Telescope will provide astronomers with around-the-clock viewing of unprecedented clarity and depth into space.

Baker, Surrency Selected As Employees of the Year

The Federal Executives Board/Federal Business Association has named JSC employees Cyril Baker and Michael Surrency as "Federal Employees of the Year."

The FEB/FBA annually makes the selections from agency nominations in six categories. Baker received his award in the administrative category while Surrency was chosen in the crafts category.

The two were chosen out of a total area federal population of 19,000 based on ability, technical competence and active community participation.

They were honored at an awards luncheon September 14.

Baker serves as administrative officer for the Astronaut Office, Flight Operations Directorate. In addition to his JSC duties he is involved in numerous community activities. Baker serves as comptroller of the St. Patrick's Day Commission, performs in the annual St. Joseph's Hospital Program and is a member of the Retired Officers' Association and U.S. Postal Customer Council.

Surrency's work activities include technical and administrative supervision of the electronics group, Electro-Mechanical Branch, Technical Services Division of Center Operations Directorate. In that job he is responsible for numerical control machines, printed circuit artwork design, chemical etching/milling and complex electronic packaging and assembly. In community activity he serves as vice president of the Space City Aquatic Team (SCAT).

Cookin' in the cafeteria

Week of November 2 - 6, 1981

Monday: Chicken & Rice Soup; Texas Hots & Beans, BBQ Ham Steak; Steak Parmesan; Beef & Macaroni (Special); Green Beans; Carrots; Au Gratin Potatoes. Standard Daily Items: Roast Beef; Baked Ham; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Tomato Soup; Potato Baked Chicken; BBQ Spare Ribs; Mexican Dinner (Special); Squash; Ranch Beans; Spanish Rice; Broccoli.

Wednesday: Seafood Gumbo; Baked Turbot; Liver & Onions; BBQ Ham Steak; Baked Meatloaf w/Creole sauce (Special); Beets; Brussels Sprouts; Green Beans; Whipped Potatoes.

Thursday: Beef & Barley Soup; Chicken & Dumplings; Corned Beef w/Cabbage; Smothered Steak w/Cornbread Dressing (Special); Spinach; Cabbage; Cauliflower au Gratin; Parsley Potato.

Friday: Seafood Gumbo; Pork Chop w/Yam Rosette; Creole Baked Cod; Tuna & Salmon Croquette (Special); Brussels Sprouts; Green Beans; Buttered Corn; Whipped Potatoes.

Week of November 9 - 13, 1981

Monday: Cream of Celery Soup; Braised Beef Ribs; Chicken a la King; Enchiladas w/Chili; Italian Cutlet (Special); Brussels Sprouts; Navy Beans; Whipped Potatoes. Standard Daily Items: Roast Beef; Baked Ham; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Beef & Barley Soup; Turkey & Dressing; Country Style Steak; Beef Ravioli; Stuffed Cabbage (Special); Corn Cobette; Okra Tomatoes; French Beans.

Wednesday: HOLIDAY

Thursday: Cream of Tomato Soup; Beef Taços; BBQ Ham Slice; Hungarian Goulash; Chicken Fried Steak (Special); Spinach; Pinto Beans; Beets.

Friday: Seafood Gumbo; Liver w/Onions; Deviled Crabs; Roast Beef w/Dressing; Seafood Platter; Tuna & Noodle Casserole (Special); Whipped Potatoes; Peas; Cauliflower.

*Menu subject to change without notice.

At Gilruth Rec Center

Defensive Driving - Learn to drive safely and qualify for a 10 percent reduction in your auto insurance for the next 3 years. Class meets from 8:00 a.m. - 5:00 p.m. on Saturday, Jan. 9th. Cost is $15.00 per person and space is limited. For information call x3944.

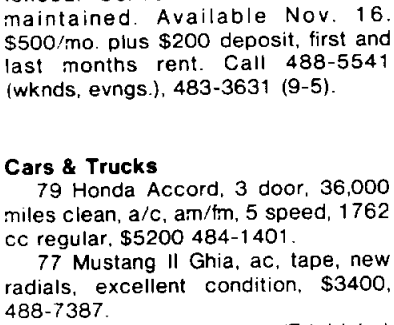
USVBA - All women interested in playing USVBA please call x3944 and leave your name and work number with Helen Munk.

The Inter-Center Run - You still have until Nov. 13th to represent JSC in the inter-center race. Races will start at 5:15 on Tuesdays Oct. 20, 27, Nov. 3, Nov. 10, and on Thursdays Oct. 22, 29, and Nov. 5, and 12. Refreshments will be provided. The runs include the 10K and 2 miles runs.

JSC EXCHANGE STORE
(Hours 10 a.m. to 2 p.m.)
Plitt Theatre Tickets $2.25 each
General Cinema Tickets $2.40 each
Astroworld/Six Flags Tickets $9.50 each
Postage Stamps/18 cent Books $3.60 each

People Helping People
The United Way

Roundup deadline is the first Wednesday after publication.



The *Roundup* is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for all space center employees.

Country Western Dance - This class is again available beginning November 2 on Monday nights. Beginners dance from 7:15-8:45 p.m. and advanced from 8:45-10:15 p.m. Cost for the course is $20.00 per couple. Limit is 15 couples per class. For information call x3944.

Beginning Watercolor painting - Learn the basics of watercolor painting in this 6 week course that begins on Tuesdays, November 3. Class meets from 7:00-9:00 p.m. and cost is $20.00 plus your own materials. For information call x3944.

Makeover Class - Get ready for the holidays with this "step by step to a new you" class. Subjects covered in this class include poise, imaging, posture and movement and makeup. Cost is $35.00 per student and this 6 week class begins Tuesday, November 3 from 7:00-8:30 p.m. Cost includes textbook written by the instructor. For information call x3944.

Arts & Crafts - Do your Christmas shopping at our arts and crafts sale at the Gilruth Recreation Center. All types of homemade and handmade items will be on sale. Time of show is 1:00-5:00 p.m. on Sunday, Dec. 6. Food will also be available and admission is free. Also, a limited number of tables are available. Call x3944 for more information.

Children's Movie - "The Legend of the Lone Ranger" will be showing on November 14 from 10:00 a.m. - 12:00 noon. Admission is $1.00 and includes popcorn and coke. Tickets available at Bldg. 11. No tickets sold at the door. Buy them in advance.

Adult Dinner Theatre - Come to the delightful production of "The Star Spangled Girl". Shows will be held on Nov. 13 & 14 and Nov. 20 & 21. Social hour is 6:30 p.m., roast beef dinner at 7:30; showtime is 8:15 p.m. each evening. Cost is $10.00 per person. Get your tickets at Bldg. 11.

International Conference on Venus To Review New Science Information

The first international science conference on Venus will be held in Palo Alto, Calif., Nov. 2 to 6, 1981.

The five-day conference is being co-chaired by NASA's Ames Research Center, Mountain View, Calif., and the University of Arizona.

The 118 conference presentations will include United States, Soviet and European scientific contributions to the study of Earth's sister planet.

Much of the new information has required the past two years to develop due to the complexity of of the recent U.S. Pioneer mission (30 experiments and six spacecraft, including the Venus Orbiter which continues to operate well); complexity of various processes on Venus; and the opportunity to compare U.S. results with extensive Russian studies, including two surface landings and six recent atmosphere probes.

New findings to be presented cover qualified descriptions and theories for most of the planet's principal mechanisms. These are: Venus' interior and crust, its apparent extensive volcanic regions, plate tectonics and general geology; the mechanisms and atmosphere constituents which create the dense Venusian cloud cover; and the hemisphere-spanning, cloud-driven circulation system of Venus' dense atmosphere — quite different from Earth's surface-driven, equator-to-pole weather system.

Further new findings cover planet-wide Venusian lightning, continuous night airglow; multi-year changes in circulation of the visible cloud tops; and proof of the greenhouse mechanism, which produces the planet's searching surface heat and dense atmosphere; likely explanations of why Venus has no water, and the intense heating which drove it off; and the rare gas ratios and other data concerning the planet's history.

New color pictures of the cloud-draped planet (selected from 900 photos) will be available.

The first movie of the high-speed rotation of the clouds around Venus, and improved computer animation (with topography) of the solid planet rotating will be complete. Other visuals include video animation of various planetary processes, film animation of the Pioneer Venus mission, and the completed U.S. Geological Survey-NASA topographical map of the planet's terrain. Finally, there is new "space music" covering several Pioneer orbital observations of Venus and the interaction of the solar wind with its atmosphere.

The conference will summarize recent advances in understanding Venus, as well as the latest findings, which will be published as a Venus planetary textbook by the University of Arizona.

Laser Radar to Assist Columbia 2nd Flight

When the Space Shuttle Columbia comes in for a landing from its second flight, National Oceanic and Atmospheric Administration scientists will be assisting with a novel wind sensor.

They will be providing up-to-the-minute wind measurements for NASA and the astronauts.

The NOAA researchers will use a laser radar, or lidar, to measure wind speed and direction above the Shuttle landing site at California's Edwards Air Force Base. Stationed on the dry lake bed directly under the path of the incoming spacecraft, the team, headed by Dr. Freeman Hall of NOAA's Wave Propagation Laboratory in Boulder, Colorado, will scan the air from the ground to a height of 30,000 feet (nine kilometers) during the last minutes before touchdown.

Balloon measurements of wind patterns over the landing field are made an hour before the landing, but the NOAA instrument can keep constant track of winds aloft. Through a direct line to Houston, they can alert Mission Control of any changes in winds that might affect the landing.

Comprehensive wind measurements before and after the flight will also help evaluate the performance of the Shuttle.

For the November Shuttle landing, the NOAA system will be picked up at Denver's Buckley Air National Guard Base and flown to Edwards aboard the NASA "Super Guppy," a modified C-97, stationed at Ellington Air Force Base.

The NOAA wind sensor, housed in a large white trailer, was developed by scientists at the Wave Propagation Laboratory and tested last summer on a plateau north of Boulder. It is a prototype of a system that may someday measure winds from space.

A telescope atop the 32- by 8-foot (10- by 2-1/2-meter) trailer projects pulses of infrared laser radiaton into the atmosphere. These pulses are scattered by airborne particles, and the velocity with which the particles (and therefore the winds) are moving toward or away from the trailer is calculated from the frequency or Doppler shift of the scattered signals.

The researchers hope that, later in this decade, the sensor can be tested from aboard the Shuttle. Eventually, a smaller, more advanced version would be installed on a planned satellite, called WINDSAT, to measure winds on a global scale from space.

Roundup Swap Shop

Ads must be under 20 words total per person, double spaced, and typed or printed. Deadline for submitting or cancelling ads is 5 p.m. the first Wednesday after publication. Send ads to AP3 *Roundup*, or deliver them to the Newsroom, Building 2 annex. No phone-in ads will be taken. Swap Shop is open to JSC federal and on-site contractor employees for non-commercial personal ads.

Property & Rentals

For rent: Galveston By-The-Sea Condominium. Two bedroom furnished apartment for rent by day, week, or month. Clements 474-2622.

For Lease: Univ. Trace Twnhse; 2-2-1/2-2 CCP; washer, dryer, ref. w/ice maker, ceil, fans, gls dr f/p, oversized patio, near swim pl w/whirl pl, clbhse w/sauna & exercise rm; $600 mo (1st & last) w/300 dep. 488-1953 after 5 pm.

For rent: 3 furnished bedrooms, large home in Pasadena. Conscientious person for other peoples property desired. 941-4459/487-5800, Lynda.

House for Lease: Wedgewood, 3-2-2 (D), oversized MBR, fireplace, fenced. Convenient location. Well maintained. Available Nov. 16. $500/mo. plus $200 deposit, first and last months rent. Call 488-5541 (wknds, evngs.), 483-3631 (9-5).

Cars & Trucks

79 Honda Accord, 3 door, 36,000 miles clean, a/c, am/fm, 5 speed, 1762 cc regular, $5200 484-1401.

77 Mustang II Ghia, ac, tape, new radials, excellent condition, $3400, 488-7387.

Auto a/c compressor (Frigidaire) removed from 1970 Nova, working good when removed, $30, A. F. Smith x4468.

'79 fire engine red Cadillac Seville Diesel; 4 door with everything; excellent condition. 474-2546.

Jaguar XKE 2+2; 4.2 Litre. Pearl Gray w/black int. a/c, am/fm, tape deck. New Perelli tires 65,000 mi. Excellent shape. $7000, Horton x5350.

77 Honda (a gas sipper) CVCC station wagon, 4 door hatchback, automatic trans., luggage rack, am/fm stereo, a/c, low mileage, excel. cond. $2,500 474-4447.

78 Dodge Aspen wagon, auto, V-8, ac, am/fm 8 track, luggage rack, ps/pb, $3400, Conwell x6370/280-9794.

'76 Buick Electra Limited, 47,000 actual mi., full power, $3300, Gary 946-2499.

'73 Ford station wagon, clean, power, air $1050.00 488-5564.

'75 VW Bug, 34,000 miles, $2,200 Call 486-0441 after 5 pm.

'71 MGB Restored. Very good condition. Black with red interior. Mag wheels. See to appreciate. $2750. Call Steve at ext. 5111 or 554-2435 after 5 pm.

'80 Chrysler LeBaron, auto trans, a/c, pb/ps, am/fm stereo. Wholesale bluebook. Gil, x3591 or 481-1172 after 6 pm.

'77 Ford Pinto Wagon, 4 speed, 4 cyl., a/c, luggage rack, 32,000 miles, exc. condition. $2650, Chuck Larsen, ext. 3967 or 538-1477.

1978 Dodge Aspen Wagon, auto, V-8, a/c, AM/FM 8-track, luggage rack, p/s, p/b, $3400. Conwell, ext. 6370 or 280-9794.

Cycles

1978 Honda Hawk 400 auto. custom seat lug. rack cruise control, low mileage (400) new battery LIKE NEW $1500.00 Hughes after 6 pm 738-4802.

Household

King size Fieldcrest Imperial Rose (Foley's) bed spread. 10 ft. round wool Early American rug with 4 matching ovals. 482-7073.

Herculon sleeper couch. Excellent cond. Asking $200. Please call 486-1089.

Wards Trash Compactor, steel cabinet, barely used, half price $130 474-4447.

Remodeling and need to sell GE Elec. 4-burner cooktop & a separate self-cleaning double oven, white, $300 for both, 474-4247.

Simmons Maple Crib with mattress and bumper pad, $60. Cosco high chair, $10. Boyd, x4891.

Six-year-old Wards 20-lb. dryer. Needs new timer switch. Has new drum bearing kit. $25. Parker, ext. 4241.

Two velvet rocking chairs, $50/pair; 3-piece luggage, $25; 2-piece luggage, $15; Chuck Larsen, ext. 3967 or 538-1477.

Wanted

Delta products Mark Ten BCD ignition system, new or used. T. M. Brown, x2313/333-3103.

Boats & Planes

For sale - wind surfer $780 call George x3035.

2 U.S. Buoyancy Compensators, $45 ea. men's/women's rocket fins, $10 ea., women's neoprene botties $5, Cindy x4785.

21 ft. fiberglass boat, I/O 150 hp Buick V6, open for fishing, adaptable for shrimping, good trailer Make offer, Frank, x7204/332-7383.

16' fiberglass boat, 35hp Evinrude, heavy duty trailer, excellent cond. $900 x2861/485-2165.

Carpools

3 person carpool wishes to add 1 or 2 more people. We meet at Eagle in Sagemont at 7:35 am and come to Bldgs. 1 & 2. We go home at 5. Loads of fun! Interested, call L. Parker at 4241.

Wanted ride to San Jacinto College, central campus from JSC T/Th 6 pm classes Lou 2886/5409.

Stereos & Cameras

AM/FM/Stereo/40 channel CB, switching antenna, Lake Brand $125.00 Underhill 2138/334-1303 after 5 pm.

Cobra 29, 23 channel CB locking side mount (floor model) incl antenna $50.00 Underhill 2138/334-1303 after 5 pm.

Radio Shack 23 channel walkie-talkie recharable batts. Case & charger $50.00 Underhill 2138/334-1303.

Sony receiver, Sony tape player, two Epicure speakers and pedestals, two Advent speakers, all hookup wire. $150. Mike Lake 523-2137

Miscellaneous

For Sale: Miniature doll house kits (never opened). Two victoria styles ($20/25). One tudor ($35). Can see at office. x4381 Nancy.

All leather men's softball glove, excellent condition, cost $42, asking $18. Garren x5023.

Bar-be-que pit on wheels, 3/8 galv. pipe frame, redwood trays, rotisserie, temp. ind., $65 Joe x3576.

Charging bar for Texan shot sheel reloader. 12 ga. Some extra bushings Yours for the asking. 333-3071.

Sears mitre box with saw, $25. 482-7643.

Heavy duty regulation size table tennis table, painted and ready to use, $25. Joe x3576.

Adler SE 1000 CD self correct electric typewriter, extra excessories (1 yr old); excellent condition, asking $495. Mike x6308.

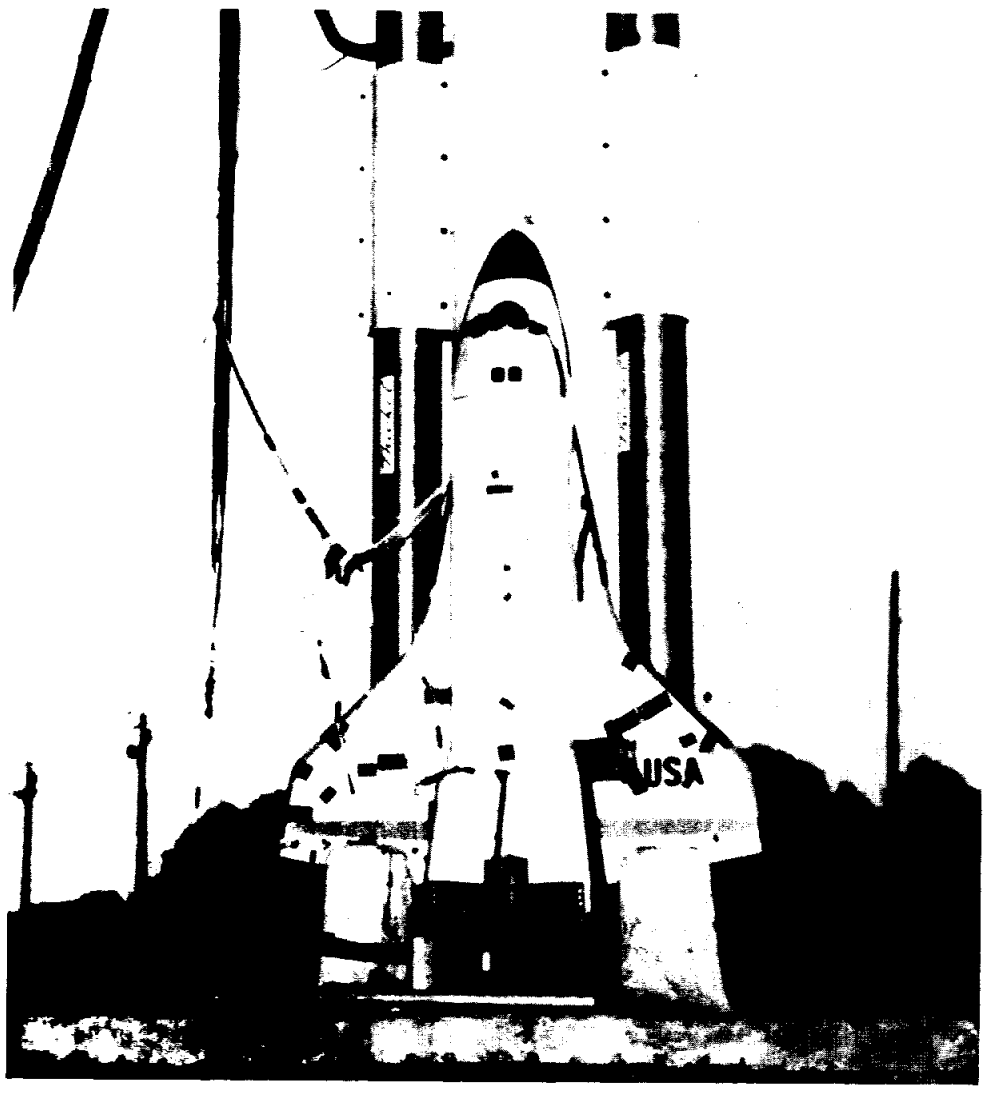
Nutria fur cape, excellent condition, worn one time. $225 339-3137.

Basketball hoop, $7. Batter-up w/stand, $5. T-ball stand. $2. 482-8827.

Four Goodrich steel belted radials good tread, $70, Jim 488-4188 after 5 pm.

Two sets steel belted radial tires Goodyear RWL P225/7OR15 5000 miles left, $50. Goodrich 3/8" WSW GR70-15, 10,000 left, $100. Dave, x2208.

Trailer hitch w/1 7/8" ball will fit most cars & SW's like new $15. 4 burner Tappan table top range $20. 34" shop fan w/motor, $75. 24" fan w/220 volt motor $50. 12 v Honda batt. good cond. $10. 921-2712.



Junior Shuttle Used for Overpressure Test

This 6.4 percent scale model of the Space Shuttle, shown being test fired at NASA's Marshall Space Flight Center, Huntsville, Ala., was used to develop and prove out a way to reduce the excessive overpressure experienced during the launch of the Space Shuttle last April. This photo was taken during one of the 37 test firings done during the three-month study.

NASA, German Research Group Sign Magnetosphere Study Pact

NASA Administrator James M. Beggs and Dr. Andreas von Buelow, Minister for Research and Technology (BMFT) of the Federal Republic of Germany, signed an agreement recently for a joint project to study the Earth's magnetosphere.

The cooperative project, Active Magnetospheric Particle Tracer Explorers, will use two spacecraft to study Sun-Earth interaction through active chemical release.

The mission objectives are to perform detailed studies of how solar wind ions enter the Earth's magnetosphere and the processes by which these particles are energized in the Earth's magnetospheric tail — the elongated portion of the Earth's magnetic envelope which streams away from the solar wind.

Tracer ions of lithium and barium will be released from the German Ion Release Module and will be measured in the solar wind and within the Earth's magnetosphere by the American Charge Composition Explorer.

Ions will be released in three places around the Earth — in front of the Earth's magnetosphere at the sub-solar point; alongside the Earth at the magnetosheath (the boundary layer between the Earth's magnetic envelope and the solar wind); and inside the distant tail of the Earth's magnetosphere.

The use of different ions will enable the project to study both the composition and dynamics of the natural charged particle population within the Earth's magnetosphere.

To carry out this project, NASA and BMFT plan to develop and launch two spacecraft. NASA will provide the Charge Composition Explorer that will be launched in 1984 on a Delta launch vehicle into a highly elliptical orbit with an apogee of eight Earth radii. The German Ion Release Module will be launched on the same vehicle with an additional kick stage to place it in a highly elliptical orbit with an apogee of about 20 Earth radii. Ion releases will be made by the Ion Release Module and ions will be detected by the Charge Composition Explorer. Both sides will provide instrumentation. Ground observations will supplement the spacecraft data.

The NASA portion of the project is managed by the Office of Space Sciences, NASA Headquarters, Washington, D.C., and tracking support will be provided by NASA's Goddard Space Flight Center, Greenbelt, Md. The Johns Hopkins Applied Physics Laboratory, Baltimore, and the German Max Planck Institute fuer Extraterrestrische Physik, Garching, Germany, will also provide scientific support for the project.

Voyager Data Indicates Hot Gas Near Saturn

Space scientists, using data collected by NASA's Voyager 2 during its flyby of Saturn this past August, have found a place in the solar system containing the hottest gas yet observed. Temperatures in a region of space around Saturn range from 600 million to over 1 billion degrees Fahrenheit.

The hot gas is an enormous doughnut-shaped region encircling Saturn at an altitude ranging from 273,600 kilometers (170,000 miles) above the planet's cloud top to as high as 724,000 km (450,000 mi.).

The discovery was announced at a colloquium at the Applied Physics Laboratory of The Johns Hopkins University, Baltimore, by Dr. S.M. Krimigis, Chief Scientist of the Applied Physics Laboratory Space Department, who is Principal Investigator of the Voyager Low Energy Charged Particle experiment which made the observations.

The measurements were analyzed by a team which includes scientists from The Johns Hopkins University, the Universities of Maryland and Kansas, Bell Telephone Laboratories, and the Max-Planck Institute in Germany.

"The temperatures," Krimigis said, "are about 300 times hotter than the solar corona, and twice as hot as the Jupiter plasma cloud discovered by our instrument on Voyager in 1979" (a plasma is a gas consisting of electrified particles called ions and electrons).

"The reason that the spacecraft survived passage through this region," explains Dr. Louis Lanzerotti of Bell Laboratories, a co-investigator of the experiment, "is that the density of the gas is very small, only about 30 particles in a cubic foot; so, there were not very many ions hitting the spacecraft and heating it up."

The scientists explained that it is very important in such studies to understand the relationship between density and heat. For example, sticking one's finger in a hot oven momentarily does not produce any burns, but placing the finger in water at the same temperature can produce severe burns, as explained by Drs. G. Gloeckler of the University of Maryland and T. P. Armstrong of the University of Kansas, both co-investigators of the experiment. "The density is the difference," Gloeckler said, "since atoms in an oven are not as densely packed as those in water."

The Low Energy Charged Particle instrument is designed to measure fast (a few thousand miles per second) ions and electrons in the magnetospheres of the planets and in the interplanetary medium. The instrument can distinguish several elements such as hydrogen, helium, oxygen, sulfur, sodium and others, measure the direction in which these high speed particles are moving and the temperature of this particle population when the plasma is very hot (tens of millions of degrees). The instrument is also capable of identifying the equivalent of the Van Allen belts and radiation zones in the magnetosphere of the planets.

The region of space around Saturn occupied by the hot plasma torus seems to be centered around the orbits of Dione and Rhea, two of Saturn's icy moons, and to extend further away from the planet on the dayside than on the nightside, Krimigis said. He also noted that in this region of space Pioneer 11 and Voyager 1 experiments had shown the presence of relatively "cold" plasma (temperatures of a few million degrees), which was a thousand times denser than the hot plasma identified by Voyager 2. The scientists have not offered any obvious explanation for the heating mechanism of this gas.

Other scientists participating in the analysis include Drs. J. F. Carbary, E. P. Keath and E. C. Roelof of The Johns Hopkins Laboratory, Dr. D. C. Hamilton of the University of Maryland and Dr. W. I. Axford of the Max-Planck Institute for Aeronomy in Lindau, Germany.

Roundup Notice

Next Roundup publication date is November 20. Deadline for Swap Shop and Bulletin Board is November 11 at 5 p.m.

Practicing for the Real Thing

STS-2 prime crew astronauts Joe Engle (commander, left) and Dick Truly (pilot, right) put in many long hours in the Shuttle Mission Simulators in Building 5 preparing for their trip into space. STS-2 will be the first time ever an orbiting spacecraft has been used twice. Working in both the fixed base and motion base simulators, the crew gains the proficiency necessary to flip the right switch at the right time.